IN THE CLAIMS

Please amend the claims as follows:

Claims 1-12 (Canceled).

Claim 13 (Previously Presented) A method of producing an electrolyte membrane comprising:

providing a precursor membrane comprising a polymer which is capable of being graft polymerized;

exposing the surface of the precursor membrane to a plasma in an oxidative atmosphere to generate surface carbonyl groups, surface hydroxyl groups, or surface carbonyl groups and surface hydroxyl groups;

graft-polymerizing a side chain polymer to the plasma treated precursor membrane; and

introducing a proton conductive functional group to the side chain polymer,

wherein said graft polymerizing a side chain polymer to the plasma treated precursor membrane and said introducing a proton conductive functional group to the side chain polymer leave at least some of said plasma-generated surface carbonyl groups, surface hydroxyl groups, or surface carbonyl groups and surface hydroxyl groups, on the surface of the electrolyte membrane.

Claim 14 (Canceled).

Claim 15 (Currently Amended): The method of Claim 13, wherein the polymer is at least one polymer selected from the group consisting of polyethylene, polypropylene, polyvinylchloride, polyvinylidenedichloride, ~~polyvinylflouride,~~ polyvinylfluoride,

polyvinylidenedifluoride, polytetratfluoroethylene, ethylene-tetrafluoroethylene copolymer, tetrafluoroethylene-perfluoroalkylvinylether copolymer, and tetrafluoroethylene-hexafluoropropylene copolymer.

Claim 16 (Original): The method of Claim 13, wherein the side chain polymer is a hydrocarbon polymer to which at least one proton conductive group can be introduced.

Claim 17 (Original): The method of Claim 16, wherein the hydrocarbon polymer is at least one hydrocarbon polymer selected from the group consisting of poly(chloroalkyl styrene), poly(α-methyl styrene), poly(α-fluorostyrene), poly(p-chloromethyl styrene), polystyrene, and copolymers thereof.

Claim 18 (Original): The method of Claim 13, wherein the proton conductive functional group is a sulfonic acid group.

Claim 19 (Original): The method of Claim 15, wherein the proton conductive functional group is a sulfonic acid group.

Claim 20 (Original): The method of Claim 17, wherein the proton conductive functional group is a sulfonic acid group.

Claims 21-23 (Canceled).

Claim 24 (Previously Presented): The method of Claim 13, wherein said oxidative atmosphere comprises oxygen.

Claim 25 (Previously Presented): The method of Claim 13, wherein the precursor membrane comprises an ethylene-tetrafluoroethylene copolymer, the side chain polymer comprises polystyrene, and the proton conductive functional group is sulfonic acid.

Claim 26 (Canceled).

Claim 27 (Previously Presented): The method of Claim 13, wherein the ratio of argon to oxygen is 75 to 25.

Claim 28 (Previously Presented): The method of Claim 13, wherein said graft-polymerizing a side chain polymer to the plasma treated precursor membrane is accomplished by irradiating said plasma treated precursor membrane with an electron beam and exposing the irradiated plasma treated precursor membrane to a side chain polymer.

Claim 29 (Previously Presented): The method of Claim 28, wherein the precursor membrane comprises an ethylene-tetrafluoroethylene copolymer, the side chain polymer comprises polystyrene, and the proton conductive functional group is sulfonic acid.